THE LANCET Infectious Diseases

Supplementary appendix

This appendix formed part of the original submission. We post it as supplied by the authors.

Supplement to: Juthani PV, Gupta A, Borges KA, et al. Hospitalisation among vaccine breakthrough COVID-19 infections. *Lancet Infect Dis* 2021; published online Sept 7. https://doi.org/10.1016/S1473-3099(21)00558-2.

Hospitalized with COVID-19 PCR+ Total=969 Unvaccinated (n=797) Partial course (1 dose of Pfizer or Moderna) (n=103) Completed course (2 doses of Pfizer or Moderna or 1 dose of Janssen) (n=15) Fully vaccinated (14 days after completed course) (n=54) В **Fully Vaccinated Disease Severity** Total=54 Asymptomatic (n=25) Mild Disease (n=4) Moderate Disease (n=11) Severe/Critical Disease (n=14) C Disease Severity by Vaccine Type among Fully Vaccinated ☐ Asymptomatic Janssen Ad.26.COV2.S-Vaccine Type Mild Moderate Moderna mRNA-1273 -Severe/Critical Pfizer-BioNTech BNT162b2 -

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Figure: A) Classification of all patients admitted to YNHH between March 23, 2021 and July 1, 2021 who tested positive for a SARS-CoV-2 PCR test by their vaccination status.

B) Disease severity among hospitalized patients with positive SARS-CoV-2 PCR test considered to be fully vaccinated. Disease severity in the figure is denoted as asymptomatic, mild disease, moderate disease, and severe/critical disease based on the following: 1)

Asymptomatic: Individuals who test positive for SARS-CoV-2 using a virologic test (i.e., a nucleic acid amplification test or an antigen test) but who have no symptoms that are consistent with COVID-19. 2) Mild: Individuals who have any of the various signs and symptoms of COVID-19 (e.g., fever, cough, sore throat, malaise, headache, muscle pain, nausea, vomiting, diarrhea, loss of taste and smell) but who do not have shortness of breath, dyspnea, or abnormal chest imaging. 3) Moderate: Individuals who show evidence of lower respiratory disease during clinical assessment or imaging and who have saturation of oxygen (SpO2) ≥94% on room air at sea level. 4) Severe: Individuals who have SpO2 <94% on room air at sea level, a ratio of arterial partial pressure of oxygen to fraction of inspired oxygen (PaO₂/FiO₂) <300 mm Hg, respiratory frequency >30 breaths/min, or lung infiltrates >50%. 5) Critical: Individuals who have respiratory failure, septic shock, and/or multiple organ dysfunction. C) Distribution of disease severity among fully vaccinated individuals by vaccine type.

Highest vent. Outcome CV Lung Malig. DM III 2L NC N discharged Y Y N N 2L NC N discharged Y N Y Y 2L NC N discharged Y N Y N Y 4L NC N discharged Y Y N Y N Y 4L NC N discharged Y Y Y Y Y 4L NC N discharged Y N N N N 3L NC N discharged Y N Y Y MNPPV N deceased Y Y Y N HFNC N deceased Y Y Y N MV Y Y Y Y N Y	No. of days between final vaccine dose &	No. of days between final vaccine dose &	No. of days between final vaccine dose &	between le dose &										Immuno
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4L NC N discharged discharged Y N <td>M 21.35 P severe 54</td> <td>P severe</td> <td></td> <td>54</td> <td></td> <td>non-ICU</td> <td>4L NC</td> <td>Z</td> <td>deceased</td> <td>z</td> <td>></td> <td>></td> <td>></td> <td>></td>	M 21.35 P severe 54	P severe		54		non-ICU	4L NC	Z	deceased	z	>	>	>	>
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MV Y Y Y N	M 23.49 P critical 70	۵	critical 70	20		3	HFNC	z	discharged	>	>-	z	>	z
	M 26.91 P critical 58	P critical		28		DOI	₩	>-	deceased	>	>	>	z	z

congestive heart failure. Lung: history of lung disease. Malig: history of malignancy. DM II: history of diabetes mellitus type II. Immunosup. PCR test. Patients are listed in the order of worsening disease severity. BMI: body mass index. NC: nasal cannula. NIPPV: non-invasive Table: Demographics and comorbidities of patients fully vaccinated for SARS-CoV-2 who are hospitalised with a positive SARS-CoV-2 positive pressure ventilation. HFNC: high flow nasal cannula. MV: mechanical ventilation. CV: history of coronary artery disease or agent: outpatient immunosuppressive agent use. P: Pfizer-BioNTech BNT162b2, M: Moderna mRNA-1273.